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ABSTRACT

A naturalistic study looked at the acquisition of English by two Japanese boys, aged 4 and 8 years, during a 2.5-year stay in the United States. Data were collected through observation and transcription of spontaneous speech in daily life. Analysis included a variety of features of language use and of the acquisition process, including attitudes toward English, stages in utterance development, code-switching and mixing, developmental commonalities (affective language, formulaic utterances), and suprasegmental features and patterns. Findings are related to theories of cognitive development, models of bilingualism, and a hypothesis of developmental interdependence in first and second language proficiency. It is concluded that two factors, age and first language proficiency, are crucial to whether a child develops a coordinate or compound bilingual system. Contains 18 references. (MSE)

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PRELIMINARY STUDY OF CHILD'S SECOND LANGUAGE ACQUISITION

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PRELIMINARY STUDY OF CHILD'S SECOND LANGUAGE ACQUISITION

Kazuko YUMOTO

PURPOSE, SUBJECTS

The objective of this paper is to present the processes of acquiring English as a second language undergone by two Japanese children. The subjects of the present study are two boys, Masakazu (hereafter M), and Masanobu (N), who at the start of the observation were eight year old and four year old, respectively. Their acquisition of English in a natural setting was observed over the period of two and a half years in the suburbs of New York City. They arrived in the United States on Christmas, 1977 and returned to Japan in May, 1980, during which period M enrolled in the second grade early January, 1978 while N attended a nursery school from March to May the same year, entered kindergarten in September, and then started first grade in September, 1979. They had had no previous exposure to English in Japan although M who happened to be born in Washington D.C. in 1969 during a previous stay and was there for eighteen months, and could be said to have had some exposure to the language in his infancy. N was born in Tokyo and was brought up in total Japanese environment.

The data was collected by taking notes of their spontaneous speech in their daily life and includes notes on phonetic transcriptions of deviate sounds, prosodic features, and other information.

This excercise is part of a study responding to questions such as: how children acquire a second language in a relatively short time, whether what they do follows ordered developmental se-

quences and whether it proceeds according to universal systematic processes whatever they have. These issues, however, are too big to handle in this preliminary observation. I shall thus content myself with illustrating English acquisition processes of these two particular Japanese children as a case study of naturalistic second language acquistition.

GENERAL OBSERVATION

One of the most conspicuous features of children acquiring second language is that they seem to take a holistic approach: that is, they seem to grasp an utterance as an amalgam of rhythm and intonation. This feature seems to be more prominent with respect to younger children. The older tend to be more analytic. Close scrutiny of utterances produced by children leads one to notice that the acquisition process of a second language is not altogether uniform and varies from individual to individual according to several factors: age, level of first language, stage of cognitive development and linguistic model of second language acquisition. These variables are interrelated in one way or another. The first two variables are discussed in this section, the last two in different sections.

Age and Maturity of First Language

Children of different ages appear to undergo different process in acquiring a second language. When N moved to an English environment at the age of four, the first language could not be considered to have fully established: he had barely reached the critical or sensitive period for language acquisition, and had not yet mastered the reading and writing skills. N appeared to grasp sentences holistically—as units of stress, rhythm and intonation together, to absorb a whole utterance as if it were one single

word. From the very beginning he tried to express himself in English, and was successfully enough to communicate in one or two-word sentences. His pronounciation sounded natural as well as his rhythm and intonation. As his English structure developed, he appeared to have command of English comparable to that of native children of his age.

M, on the other hand, can be said to have fully developed Japanese structure system in all areas as he had had almost two years of Japanese schooling before being exposed to English. While he did not utter one word in English for almost the six months, it appears that he was struggling to analyze and grasp English sentence structure. By the time of his first attempt to speak in English, it appears that he knew the rule that a sentence consisted of a noun-and a verb-phrase, S →NP VP, however, primitive the form. The first English utterance that he produced was a sentence "I do now change clothes" (I'm now changing clothes)[1]. While N seemed to grasp sentences holistically, M grasped it analitically, which means he was trying to understand grammatical elements such as plural suffix, third person singular form and auxiliaries. His first language appeared to interfere with the phonological aspects of his speech, not only with vowels to a lesser extent to consonants but also rhythm and intonation, probably due to the fact that the phonological system of Japanese is firmly established as a system.

1. Sentences in parentheses are approximations of the meaning of sentences in quotes. The numbers, if added, refer to the time of performance; for example, 0.4 means that the utterance is made in the fourth month of the child's stay in the U.S. The context is given in brackets where necessary.

VARIATIONS IN EARLY STAGE OF LEARNING

N's Case

1. N's Early Attitude

N took a positive attitude toward the English language from the start. Being curious and inquisitive, he enjoys learning new words and asking questions about appropriate forms to use in English. He liked to be read English picture books. As he had started attending nursery school after a period of two months, his range of vocabulary widened and manipulation of sentences developed. Even when playing alone he used English phrases that were apparently picked up at school, and in an imaginary conversation with himself, as in:

"Play with me?" "No." ("Will you play with me?" "No. I won't.") 0.4

"I did it" 0.4

"Evibody, six dollars, please." (Everybody, give me six dollars.) 0.5

"All right(t) guys, come here." (All right guys, come here.) 0.5

At one time while eating dinner he suddenly said "Everybody going home" 0.7, probably a phrase used by a teacher. The following dialogue with M showed that N practiced patterns he had acquired at school:

N	"I told you no more questions."	[said while playing with cars]
M	"*Do yu imi?*"	(What do you mean?) [M apparently could not comprehend N's abrupt utterance, totally unrelated to the situation]
N	"*Sensei ga itte ita yo.* 'No more talking'."	(The teacher said so). [He repeated after few seconds "No more talking" to himself.]

He tended to practice phrases said by the teacher, who probably in this instance was ordering children to stop questions or talking.

N appeared to have some degree of metaawareness of language, the ablility to think and talk about the language in his fourth month as exemplified in

> " 'Walk' *wa aruku desho? Hashiru wa* 'wun' *desho?* A cat is wun. A cat is walk. A dog is walk." ('Walk' means "to walk", doesn't it? 'Run' means "to run", doesn't it? A cat runs. A dog walks.) [This is said as if practicing sentence patterns.]

It was not difficult to guess how much English N had attained, as he was quite talkative and frequently asked for meanings of familiar phrases used by, for instance, the teacher as in

> " 'I want you to sit down' *te nani?*" (What does "I want you to sit down" mean?)

and then goes on to practice a patttern substitution, "I want you to lie down" 0.7.

2. N's Early Utterances

There was a period of one-word, two-word or three-word sentences, as in "Milk!" 0.2, "Up here" (Go up there) 0.6, "More milk, please" 0.6. The one-word utterances gave way to two- or three-word utterances around the fifth or sixth month. He was able to communicate with other in one- and two-word sentences through the use of gestures and because of the situational context.

In minimum word sentences, a child seems to use so called pivot words, which are not neccessarily grammatically important items such as nouns or verbs, but which can convey maximum information from the point of the child's intentions, as in "No" to mean 'Don't do that', "Upstairs?" meaning 'Is he upstairs?', or "Cars——A boat" instead of 'These are cars.——This is a ferry boat'.

The syntactic and semantic functions of even such simple structures as above are far more complex than it appears on the

Table 1. N's early utterances

Utterance (Month)	Gloss
1. Milk! (0.2)	Give me a glass of milk.
2. Fork! (0.5)	Give me a fork.
3. Don't / No. (0.3)	Don't do that.
4. Move! (0.4)	
5. Upstairs? (0.5)	Is he upstairs?
6. Up here. (0.5)	Go up there.
7. Cars.——A boat. (0.9)	These are cars. This is a ferry boat.
8. Play with me? (0.4)	Will you play with me?
9. More milk please. (0.6)	Give me more milk, please.
10. Evibody, six dollars please. (0.6)	Everybody, give me six dollars, please.
11. This way or that way? (0.7)	Are we going this way or that way?
12. Machan, this way is goes. (0.7)	We go this way.
13. Get down. Over there. (0.7)	Help me down from the chair and carry on your back and take me over there.
14. Hurry up please, Mommy. (0.7)	Hurry and wash me. [said while taking a bath.]
15. Three house. That's teddy bear's house. (0.7)	This three pillow house is teddy bear's house.
16. Who's this? Tell (0.6)	Tell me who this is.
17. Where's the key? That door. (0.7)	Where's the key to that door?
18. My mommy sleep in my bed. (0.5)	I want you to sleep in my bed. [addressing to mother.]

surface. N seems to manipulate limited number of words and structures to express his complicated intentions, as can be seen:

"Get down. Over there." (Help me down from the chair and carry on your back and take me over there.) 0.8

"Hurry up please, Mommy." (Hurry and wash me) 0.7

"Who's this? Tell." (Tell me who this is) 0.6

"Three house. That's teddy bear's house." (This three pillow house is teddy bear's house) 0.8

"My mommy sleep in my bed." (I want you to sleep in my bed)
0.5 [by pointing at himself at the word mommy to express his wish, "I want".]

It is interesting to note that the last utterance, context aside, can superficially be understood as "My mommy sleeps in my bed" with the third person singular deleted, which was often the case with M and N, especially in the early stage. This sentence further represents syntactic similarity with "I sleep in mommy's bed" 0.8 in which the 'be' copula is omitted. However close the syntactic similarities of the surface structures may be, the two sentences manifest quite different semantic structures. Taking the contexts into consideration, these sentences contain more complex syntactic relationships than is assumed in surface structures. A child is far more sophisticated in his grasp of a situation than his utterances appeare to indicate as can be seen from the utterances above. In other words, however simple the structure on performance level may be, a child seems to have concepts that have to be realized by more complex sentences than appears on the surface. The utterances given above are some manifestations of these concepts and can be considered as developmental levels to generating higher and more complex structures.

3. N's Mixed Utterances

It is often the case with N to produce mixed sentences, consisting of English and Japanese words. English words appeared at an increasing rate in N's utterances as time went on. When he did not have an appropriate English word on hand, he would borrow one from his Japanese vocabulary and adapt it to the English sound system, as in the following dialogues between N and M:

N "This is my báll." (This is my balloon.)
M "*Boru ja nai yo.*" (That is not a ball.)
N "This is my *fusen*." (This is my balloon.)

Table 2. N's Mixed utterances

Utterance (Month)	Gloss
1. *Iku yo*, one more time, one more time. (0.5)	I'm going once more.
2. This is my *fusen*! (0.6)	This is my balloon.
3. My clock is *shichi-ji han*. (1.1)	It's seven thirty by my clock.
4. It's *samui*. I'm *samui*. (0.7)	It's cold. I'm cold.
5. I want *o-ekaki*. (0.7)	I want to draw pictures.
6. I wannna *o-shokuji*. (0.7)	I want to eat.
7. It's time to *hadaski*. (0.7)	It's time to take off my shoes.
8. You are getting *hage*. You are getting so *hage*. (1.2)	You are getting bold. [Cheating M who is having his hair cut.]
9. I dont't *ha arau* because you are gonna *ha arau* me. (1.3)	I don't brush my teeth because you are going to brush them.
10. Jiju see that? *Pon to tondanda yo*. Diju see that? (0.7)	Did you see that? I jumped high up? Did you see that?
11. Why can't you eat one more? *Boku mo tabcna-kcrcba dame da yo*. (0.1)	Why don't you eat one more? I should eat it, too.
12. I can't see it. Ah, *micta*! *Niji wa atcai yo*. (0.7)	Ah, I can see it. A rainbow has pastel colours.
13. Did you see the beaver running away? Forest *ni ita no*? *Arai*wa lake *ni itano*? Stand up *shiteta*? *Soretomo* lay down *shiteta*? (1.3)	Was it in the forest? Or was it in the lake? Was it standing up? Or was it laying down?
14. Tree *ga* stand up *shiteta*? (1.3)	Was the tree slim?
15. *Hosokatta*? *Soretomo* fat *datta*? (1.3)	Was it slim? Or was it fat?

M " '*Ba*' *ga tsuku yo. Eigo de nante yu no.*" (It begins with 'ba'. How do you say it in English?") [N turning to mother, asked.]

N "Balloon *dayo*. Balloon *chodai*!" (I mean the balloon. Give me the balloon.)

M "It's mine. Get off me!" (It's mine. Get off my back.) 0.6

N "I wanna *o-shokuji*." (I want dinner./I want to eat.)

M " 'I wanna eat' *da yo*." (It should be "I want to eat".)

N "I wanna eat you, Machan!" 0.7

Similary, N mixes units from the two languages and utters them with the English rhythm and intonation patterns as in the following utterance:

"Window *o akete mi yo*. The raining!"
(I think I'll open the window. It is raining!) 0.6

with /241/ intonation contour to express his surprise at the rain. N borrows nouns, verbs and adjectives from Japanese as in "I wanna *oshókuji*" (I want to eat) 0.8, or "It's *samúi*. I'm *samúi*" (It's cold. I'm cold) 0.8. He changes the Japanese words to different form classes in English contexts; he uses a Japanese words to different form classes in English contexts; he uses a Japanese noun as an English verb to generate infinitive constructions as in "I want *o-ékaki*" (I want to draw pictures) 0.8 or "It's time to *hadáshi*" (Now I can take off shoes) 0.8; or as an adjective as in "You are getting so *hágc*" (You are getting so bald) 1.2 with stressed and lengthened the first syllable of *hagc* to Anglicize the word. He borrows a verbal phrase as well, as in

"I don't *ha arau* because you are gonna *ha arau* me."
(I'm not going to brush my teeth because you are going to brush them for me) 1.3

It is interesting to notice here that he takes complements (objects) from both of the languages to generate the SVCC construction "*ha arau* me" (literally, brush me my teeth). The mixing languages in N's speech is observed in most cases on lexical level, but it is found on the syntactic level as well, though limited in number, as in

"Jiju see that? *Pon to tondanda yo*. Diju see that?"
(Did you see that? I jumped.) 0.7,

"Did you see the beaver running away? Forest *ni itano*? *Aruiwa* lake *ni itano*?

(Was it in the forest? Or was it in the lake?) 1.3

"I wish I could fly! Fly *shitai na*. Mommy, fly *shitai na*. *Moshi boku ga karukattara* fly *dekiru yo*."
(I wish I could fly. Mommy, I wish I could fly. If I were lighter, I would be able to fly) 1.3

"Miss Headley *wa* close to Bronxville School *ni sunde-rnnda yo*. So she lives closer to my house."
(Miss Headley lives close to Bronxille School which means she lives close to my house) 1.4.

N's mixing of items from the two languages is spontaneous and seems to be free from any linguistic restraint whatsoever. What struck me about his mixed utterances is that by means of English stress, vowel lengthening, rhythm and syntactic position items taken from the Japanese lexicon were adapted so naturally not only to the English sound system but also to its grammatical system that two languages seem to be as if merged into one single system. His utterances are, on first hearing, a random juxtaposition of items from the two languages, but in actuality they are manifestations of internalized rules through the process of creative construction to form his own unique grammar.

M's Case

1. M's Early Stage

The first five months in M's case can be labeled as the silent period or more appropriately the rejection stage. During the first three or four weeks, I being the mother, have tried to "teach" him English words and basic structures from Scarry's *Best Word Book Ever*. However, his rejection of the language was so strong that I gave up the practice altogether, as it appeared to be doing him more harm than good. He even rejected my reading books to them in English. Whenever I started to read English books to M and N, he left the room. At school he contented himself with

drawing pictures or playing with the school guinea pig, and did not mingle with other children. However, he did play with the boys in the school playground where no language was required. He took a special course in English for foreign students in which he learned basic structures, negative and interrogative sentences, singular-plural distinction of nouns, the third person singular form, etc. In his regular classes he did not utter a word in English as I found out as one of his friends asked me "Why doesn't M speak English in class?" In order to induce him to speak English, I frequentely invited his friends over to the house. He did not reject his friends and seemed to enjoy throwing snowballs, kicking balls and playing games with them. He was reluctant to visit his friends if invited. It was the language that he rejected and not his friends or school. As a result I was not able to get data concerning his English for a period of six months for the start of the observation.

Having assumed that the child would acquire the second language in a more or less similar manner to that exibited by N, it was difficult to comprehend why M did not speak even a single word in English. At the end of the fifth month, M while changing his clothes, he suddenly says "I do now change clothes" (I'm going to change my clothes now) so naturally that the completeness and suddenness of this first utterance struck me speechless. It was as if I had seen the sudden blooming of a hitherto unseen bud. During silent period when M appeared not to engage in any intellectual activity, with little interest in English, he must have been actually listening and analyzing the language, probably resorting to the structure of his first language, and formalyzing the fundamental universal rule, S →NP VP in his mind. Thus what was seen as his silent period or rejection stage turned out to be analytic period during which he was acquiring the language.

Table 3. M's affiramative sentences

Utterance (Months)	Gloss
1. You go first. (0.5)	
2. I go first. (0.5)	
3. Coming is soup. (0.6)	Soup is coming. [at a restaurant]
4. Hot water's coming. (0.6)	
5. Get out of here. The store is not open. (0.7)	Don't come in. [as in a play]
6. Hey, it's too winds. (0.7)	It's too windy.
7. Hey Noby, give me the pen. (0.7)	
8. Put on fire! He have no water. He has no water but he has fire. Let's eat lunch. Let's eat eye that is so scarely. Shark is coming now? Hey Ingrid, this way is salt. Oh, everything is good! Get out of here. Wait a minute, stay there! I have a good idea! (0.8)	Put it [referring to a toy shark] in the fire. He is not in the water. Let's eat the eyes that look so scary. The shark is coming this way. This way is the salty sea. Oh, this is fun! Let's get out of here.

Table 4. M's interrogative sentences

Utterance (Months)	Gloss
1. Where's you, Nobu? (0.5)	Where are you, Nobu?
2. What's dinner today? (0.6)	
3. Excuse me, what's this? (0.7)	
4. Who's—Who were you? Get out of my bed. (0.8)	Who are you?
5. Who's like, who like 7 Up? Who want Coca Cola? (0.7)	Who likes 7 Up? Who wants Coca Cola?
6. Who wants play golf? (0.7)	Who wants to play golf?
7. Who wants go upstairs? (0.7)	Who wants to go upstairs?
8. Who goes first? (0.7)	
9. What are they doing, are they? (0.7)	What are they doing?
10. What are you say? (0.5)	What did you say?
11. Where dija get it? (0.7)	Where did you get it?
12. Why don't you stop? (0.7)	
13. Yack! Did you see that? (0.8)	
14. Where rubber band gone? (0.7)	Where has the rubber band gone?

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2. M's Early Utterances

M generated fundamentally well-constructed sentences but with a few minor grammatical mistakes. There was no one-word period in his speech; two-word sentences were few, as in "Hey, downstair" (Let's go downstairs) 0.7, "Over there" (Go over there) 0.7 and "Play outside?" (Shall we play outside?) 0.7. In utterance 3 of Table 3 the subject and predicate are inverted. Utterance 8, "Let's eat eye that is so scarely" suggests that M had, by the eighth month, already acquired the structure in which an S is embedded in the NP.

It appeared that the abbrebiated forms of interrogative pronoun+ be copula, namely, where's, what's, as in utterances 1 to 5 of Table 4 function as monomophemic units in his mind. This is probably due to an analogy from the frequently used patterns of where's/ what's/ who's+NP in the early stage of learning. The forms that he once took as unanalyzed units were differentiated into two morphemes, the interrogative and the be copula, in around the eighth month as in 4 of Table 4 at which time however, the complex English copula forms had not yet been acquired. Consequently, he searched for the right form in the middle of the utterance. Comparing 4 with 1, one can see that M in the fifth month did not notice the error made. Three months later, he came to notice and trid to correct and restated the utterance, though his choice was not appropriate. That is, he was beginning to moniter his speech. On contrast to "implicit knowledge" (Bialystok, 1978, 1979) which is the ability to "recognize his own correct and incorrect sentences" (Gass, 1983), the ability to correct errors and moniter the output reflects "explicit analyzed knowledge". Utterance 5 of the Table 4 is another example of this sort in a different construction from the one above. M at one time grasped the form 'who's' as monomorpheme, thus uttering the phrase "who's like" automatically. In 5 however, no sooner had he

generated the utterance than he noticed the error and corrected himself. The third person singular -s, omitted at this point, made it appearance later in the period, as seen 6, 7, and 8. Be copula is coordinated with the subject in 9, which is, however, an ungrammatical sentence in that he generated a tag question with a wh-interrogative sentence, and thus violating the tag rule. The examples 10 through 12 represent the 'interrogative pronoun + auxiliary verb' form. The auxiliary verb *did* was not differentiated from be copula in the fifth month; an unanayzed amalgam of auxiliary *dija* (did you) emerged in the seventh month as in 11, which in turn was analyzed into two morphemes as in 13. Utterance 14 may represent a proto form of the present perfect tense.

3. M's Mixed Utterances

Contrary to N's case, M rarely mixed the languages. When occurred the manner differed from that of N: M mixed English and Japanese not on the lexical level as did N, but on the syntactic level as in:

"Nobu, I want you. *Koi yo*. Nobu. *Koi yo*." (Come here) 0.8
"I want to go in the car. *Kuruma ni noritai yo*."
(I want to go back into the car) 0.8.

In utterance "Move. Move your heet. Move your feet. *Yamero yo*! *Wazato sonna koto shite rundaro*" (Stop it! You are doing it intentionally) 0.7, he shifted from [h] to [f] on the word foot. Interference of [h] to [f] observed in this period may be due to phonetic similarity (cf. "Furry up" for "Hurry up" 0.6).

From this fact of M mixing the two languages on syntactic level, one can assume that he was able to distinguish between them quite distinctively. This can be explained by the fact that his first language had been firmly established prior to exposure of second language.

DEVELOPMENTAL COMMONALITIES

Affective Language

Egocentric features are conspicuous in child language. Consequently, utterances expressing a child's desires such as demand, denial (prohibition), command, and self-assertion are numerous in number, and are mastered as sentences at an early stage, as is true in their first language acquisition. This common phenomenon found in their acquisition of both first and second languages seems to derive from what Piaget (1923) calls 'egocentricism', a child's most characteristic feature. It can also be explained from the congnitive point of view that language develops from the "affective-connative" stage to an "intellectuall" one (Vygotsky, 1962).

1. Demand

The utterances of demand especially the 'give me' and 'I wanna' patterns are abundant in number for both M and N. The former overlaps with 'command' in form. It might be interesting to follow developmental sequences of 'give me' patterns: at first the 'give me+NP' form is generated as in

"Hey Noby, give me the pen" M. 0.7

then by analogy the NP is simply substituted by the pronoun, 'it', to generate the 'give me it', which form is stubbornly kept in spite of frequent corrections up to a period of a year. Note that the correct form appears in the same month as

"Give it to me." M 0.6

The 'give me NP' formula changes to the form 'give it to me (juncture)+NP' as in:

"Give it to me, my paper." M 0.7
"Give it to me my teddy bear." M, N 0.7

This form is abundant in the data.

2. Denial / Prohibition

Denial and prohibition utterances occur in large numbers as in,

"That's not mine." N 0.6
"Don't kick my face." M 0.8
"Don't pull me." M 0.10

3. Command and Self Assertion

Command and self assertion utterances are also mastered in complete sentences in an early stage as in:

"Come over here." N 0.5, M 0.7
"Go raway! Go a way! Go raway!" M 0.5
"It's mine." N 0.6
"This is my ball." N 0.7

Formulaic Utterances

Formulaic sentences, basic wh-questions and exclamatory sentences are mastered at an early stage, as in "I can do it" N 0.5, "What time is it now?" N 0.6, "Where dija get it?" (Where did you get it?) M 0.7. Also exclamatory sentences are found in following dialogue between N and his mother:

N "What a beautiful cat!"	[To himself, putting on mitten with face of pussy cat, in monologue]
Mom. "*Dore ga?*"	(Which one?)
N "*Kore do yo.* What a beautiful cat! It's wet!— What a dirty cat!	(This one.) [Juice spilles on mitten] 0.7

The following dialogue took place at lunch time when N made a sudden question unrelated to the situation:

N "How are you, Mommy?
Mom. "Fine thank you, and you?"
N "*Chigau yo.* 'How old are you?' *da yo.*" (That's not what I mean. I mean "How old are you?")
Mom. "I'm thirty six."
N "How old are you daddy?" (How old is daddy?)
Mom. "'How old is daddy?' *de sho?*" (That is "How old is daddy?")
N "How old is daddy?"
Mom. "He's forty one." 0.7

N had intended to ask mother's age in the first utterance. Since he did not get the expected answer from her, who had assumed it as one of his sentence pattern practices, N realized that he had made a mistake, and as seen in the dialogue corrected himself. We notice here that N is capable of correcting himself at this stage (0.7) as evidenced by "How are you?" to "How old are you?" and from "How old are you daddy?" to "How old is daddy?" that would not have possible at early stage.

STRESS TIMED RHYTHM

Children respond to, and are sensitive to prosodic features of English that are different from their first language, such as word-stress, vowel-length, rhythm and intonation, as in the utterance between N and his mother:

N "*Kono kami ni kako.*" (I'm drawing on this paper.)
Mom. "I'm sending it to your grandma."
N "Where's my grandma?"
Mom. "She's in Japan."
N "'Pan' *te nani?*" (What is *pan?*) 0.6

Table 5. Stress, stress-contrast, vowel-length

Utterance (Child Months)	Gloss
1. I want sóme one more. I want sóme one more. (N 0.6)	I want some more.
2. No. I like this glass. Thát's yours. (N 0.6)	No, that's not my glass. I like this glass. That glass is yours.
3. It's my béd. (N 0.7)	
4. It's mý bed. (N 0.7)	
5. No, that's mine. (M 0.8)	No, that's not yours. That's mine.
6. That's yóur track! (N 0.8)	
7. Give me mý teddy bear. *Kurenai yo.* That's my teddy bear. (N 0.8)	He won't give it to me.
8. No, I can't. I ca•n do it. (N 0.7)	I can't do it.
9. I ca•n move. I ca•n. (N 0.8)	I can't move.

Table 6. Atticle delection

Utterance (Child Months)	Gloss
1. Fork! /I want fork, please. (N 0.5)	I want a fork, please.
2. Where's cup? (N 0.7)	Where's the cup?
3. Where's pencil? (N 0.7)	Where's the pencil?
4. Get out of seat! I said get out of seat. That's good. (M 0.8)	Get out of the seat.

This last utterance shows that N is actively responding to the stressed vowel of the word, Japan. Such other examples:

"This is mý báll!" N 0.7

with the words, *my* and *ball* (balloon), stressed, or as in the dialogue with mother,

Mom. "Your apple juice is there. That's mine."

N "I like this glass. Thát's yours." [exchanging his glass to

Table 7. Be-deletion

Utterance (Child Months)	Gloss
1. I hiding here (N 0.6)	I'm hiding here.
2. Everybody going home. (N 0.7)	Everybody is going home.
3. Where you going? (M 1.2)	Where are you going?
4. Where you going, John? (N 0.5)	Where are you going, John?
5. Whacha doing? (N 0.7, M 0.8)	What are you doing?
6. Whachu you doing? (M 0.8)	What are you doing?
7. What you doing? (M 0.9)	What are you doing?
8. What chu you doing up there? (M 0.10)	What are you doing up there?
9. What he making? (N 1.2)	What is he making?
10. What I eating? (M 1.1)	What am I eating?
11. He kicking me. (N 1.1)	He is kicking me.
Cf. a. What do you doing, Noby? (M 1.1)	What are you doing, Noby?
b. What am I gonna do? (M 1.8)	
c. How do you know where I'm hiding? (1.2 M)	
d. Everything is going like this. (1.1 M)	
12. "I so gla(d)" *ite nani?* (N 0.8)	What is the meaning of "I so gla"?
13. I so glad sleeping with mommy. (N 0.8)	I'm so glad if I could sleep with you.

Table 8. Final consonant deletion

Utterance (Child Months)	Gloss
1. All right(t) guys, come here. (N 0.6)	
2. Wai(t), wai(t). It's not finish. (M 0.7)	
3. Whay you doing? What you doing? (N 0.8)	What are you doing with that?
4. Hen(d) up! (N 0.8)	Hands up!

hers] 0.6

This trend also appears in M as in the dialogue with N,

M "It's my béd."
N "It's mý bed." 0.8.

For the pair *can* and *can't*, N distinguishes them by means of the difference in vowel length, [kæn], [kæ:n], respectively as in the following dialogues:

N "Lisa *wa kono gurai chiisaku te* tie *deki nai no.*"	(Lisa is small and she can't tie shoes.)
Mom. "Nobu *wa* tie *dekiru no?*	(Can't you tie shoes?)
N "No, I can't. I ca•n do it."	(No, I can't. I can't tie shoes.) 0.8

or as in "I ca•n move. I ca•n." (I ca•n't move. I can't) 0.8, in which the vowel is prolonged to express negation.

The neglecting of function words such as articles, linking verbs, prepositions or of the third person singular present form, -s, and of final consonants is very common in their speech. Such linguistic phenomena seem to occur because of the characteristic rhythm of English, the stress-timed in which stressed vowels are distinctively articulated while unstressed ones are often reduced and become obscured. Function words are usually unstressed in English, thus they are drastically reduced in length and are obscured. The deletion of articles, prepositions, be copula, third person singular suffix in their speech can be explained by the fact that English has stress-timed rhythm. It stands in contrast to the syllable-timed rhythm of Japanese in which the syllables are more or less equally spaced, resulting in precise and clearly articulated vowels.

1. Article deletion

Articles which are almost always unstressed in English are one of the most frequently dropped expressions by M and N.

N "Fork!"
Mom. "Can you say it in a sentence?"
N "I want fork, please." 0.5

2. Be-deletion

Be-deletion was quite common in their speech probably because of the time it takes to internalize be-copula rules (3 to 11 of the Table 7). "Whacha" (What are you) was probably an unanalyzed amalgam (5), which later was analyzed as three morphemes, "wha chu you" with 'chu' as an auxiliary (6, 8). Later again the proto type of be-copula, 'chu', is substituted by the auxiliary 'do', as in "What do you doing, Noby?" (11, a). It seems that 'do' was not distinguished from 'chu'. Nevertheless, syntactically more highly complex structures were used in a complete sentence in the same period as "How do you know where I'm hiding?" (11, c). Be-copula is not found even in their fourteenth month (3, 9, 10, 11).

In the following dialogue between N and his monther;

N "'I so gla' *te nani?*	(What is "I so glad"?)
Mom. "'I'm so glad' *te 'ureshii' te koto yo.* I'm so glad if you go to bed now. "'*Nenne shitara ureshii wa' te itta no yo.*	(It means that "I'm so glad." I'm so glad if you would go to bed now.")
N "*Iyada.* I so glad sleeping with mommy.	(No, I won't. I'm so glad if I could sleep with you.) 0.8

N responds so strongly to the stessed vowel of the word 'glad' that he fails to hear the final consonant in the first utterance. The phrase is probably taken as a single unit, thus the persistent drop of the be-copula even though he is able to generate an original sentence which is not the simple immitation of others at this stage, as in the last utterance.

3. Preposition-deletion

It is also the case with M and N to drop prepositions which are most often unstressed in English as in:

"Everybody look, this Star Wars!"	(Everybody look at this picture of the Star Wars.)	M 0.7
"What were you done your shirt?"	(What have you done with your shirt?)	N 1.2

4. Final consonant-deletion

In the following dialogue between N and the mother:

N "*Boku wa* police *da*. Hen(d) up!	(I'm a police man. Hands up!)	
Mom. "'Hand up' *de sho?*"	(It should be "Hand up".)	
N "Hand up! High! Hands up hight! *Hayaku*! Ban, ban!	(Hands up high! Hurry up! Bang, bang!)	0.8

The stress on the word 'hand', rather than 'up' explains the omission of the final consonant in the first utterance. Shifting the stress to the appropriate unit, we find that the final consonant is articulated as in "Hand up". Further N has the ability to correct the error in the expression "Hand up" by his mother as seen in the last utterance "Hands up height".

5. Intonation

M and N acquired basic intonation patterns at an early period such as the falling tone for statements and wh-questions; the rising tone for yes-no questions. The rising and falling tone for alternative questions and tag-questions, (the falling and risng tone is absent in their speech), were also mastered in the early period as in:

This | way or | that way? (Are we going this way or that way?) N 0.7

He's | lucky, aren't he? (He's lucky, isn't he?) N 1.2

They were quite good at manipulating rising tone for "listing" and "vocative", as in:

Boku Kazoe rareru yo. One two, three, four, five, six,——

twenty nine, twenty ten. (I can count.) N 1.3

Are you all right, Machan? N 0.8

and falling tone for exclamatory and command sentences:

What a dirty house! N 0.7

Sit down. M 0.8

and "rising, falling and rising tone" is used to express surprise or unexpectedness as in:

Hey, what's this? M 0.7

Not me. [as an answer to M's question, "Who wants pupcorn?"] N 0.7

They have also noticed correlations between stress and change in pitch:

This is mý cát. Yóur name is Teddy Bear. [with change in pitch at the stressed syllables] N 0.8

I wánt yóu to lie dówn. [with a rising pitch at 'want,' and a falling one at 'down'] N 0.7

COGNITIVE DEVELOPMENT

The age at which a child acquires the second language seems to influence his approach to the language. A younger child seems to grasp the language holistically, perceiving a sentence as an unanalyzed amalgam of units with stress and intonation; an older child seems to grasp the language analytically, that is he analyzes grammatical and syntactic functions of the language. Differences in age may be reflected in differences in child's cognitive maturity.

Piaget in his cognition hypothesis (1958) claims that cognitive and linguistic developments are related. Recent developments in neurolinguistics show a neurophysical process of language acquisition and indicate close relations between language development and brain functions. It is generally accepted that the left hemisphere controls functions of language, and the right, those of perception. Recent studies in neurolinguistics, however, postulate that the right hemisphere is also involved to some extent in language. The right hemisphere is said to have the capability of holistic processing, pattern recognition, and some "actual processing of surface features of sentences" (Seliger, 1982). It is recognized that the right hemisphere participates in second language learning particularly during the initial stage of learning.

The right hemisphere plays a dominant role in perception of the environment and of spatial relations and processes melodies and tonal properties. While the right hemisphere is said to be involved in emotional and holistic aspects of language, the left hemisphere involves in intellectual and analytic aspects of language. The development of the right hemisphere is in advance of that of the left. Thus the ability of acquiring the second language is determined by the stage of brain maturity. It follows that there are differences in cognitive maturity according to a child's age. A younger child is likely to develop a cognitive representational

system common to the two language, while an older one develops separate cognitive representational systems for the two languages. Since changes in cognitive and neurological maturity are related, age is expected to have implications for second language processing; with respect to a younger child there is more right hemispheric involvement.

The fact that children acquire basic intonation patterns quite early can be explained by the right hemisphere participation in second language learning: intonation can only be learned as an amalgam of stress and intonation contours. Similary, early acquisition of formulaic utterances and prosodic features such as stress and contrast of meaning by means of stress support the idea of right hemispheric involvement in the early stage of second language acquisiton, since these features can only de dealt with holistically.

The differences in acquisitional processes exemplified by M and N can be accounted for in terms of their maturational state of the brain and of the cognitive functions that are correlated with the child's age. The fact that N grasps a sentence holistically and excels in rhythm and intonation, and that he generates utterances highly dependent on contexts can be explained by the involvement of the right hemisphere, which is active at his age. The fact that M is analytic and consequently conscious of grammatical functions can be explained by active left hemisphere participation.

Phonological interferences of the first language observed in an older child, but not in a younger one, would be related to the child's first language development. As the phonological system of the first language is firmly established, an older child tends to transfer it to the second language. He is capable of switching from one language to the other depending on the person he speaks to, while the younger finds difficulty doing so. The former grasps

the language analytically and thus can distinguish two language systems, while the latter seems to establish a single merged language. Consequently, the younger the child is, the more likely he is to lose his first language.

MODELS OF BILINGUALISM

The compound and coordinate systems as theoretical models of bilingualism which were first postulated by Weinreich (1953) and developed by Ervin and Osgood (1965) may explain the differences found in the case study here. The compound system is said to develop in "fused" language-acquisition contexts where two languages are interchangeably used for the same event. This explains why a compound bilingual produces mixture of the two languages. The coordinate system is said to develop in the "separated" acquision contexts, that is two languages are acquired in different linguistic communities, time and or place; the two languages are functionally separated. A coordinate bilingual would have greater semantic differences between symbols and consequently less facility of mixing the languages. It is likely that there are differences in the "neurological substrate for first and second language processing" (Genesee 1982) since there are differences in cerebral maturity during the periods of first and second language acquisition.

The models of bilingualism are not theoretically correlated to the age at which one acquires the two systems of languages; it is possible for a young or older to be either a compound bilingual or a coordinate bilingual. However, judging from the model of M and N here described, one can assume that an older child tends to follow coordinate system because he has first language fully established prior to learning the second, while the younger tends to follow the compound system.

This was the case with M and N; the two languages which constitutes two coordinate system in M are maintained distinctively whereas in N they constitute a single compound system. This explains why items from the two languages are juxtaposed in utterances by N in an easy and spontaneous manner, while observing rules of the two languages. Thus, the resulting mixed utterances by N follow the phonological and syntactic systems of the second language in a unique way.

DEVELOPMENTAL INTERDEPENDENCE HYPOTHESIS

The coordinate bilingual system may be comparable to two separate language boxes in the brain, the bilingual shifting from one language to the other accordining to time and context.

Contrary to the notion that two language systems exist separately as discussed above, Cummins (1980) proposes her "developmental interdependence hypothesis" regarding the close correlation between the first and second language proficiency. The hypothesis holds that two language systems do not exist independently but that there is a "cross-lingual dimension" between the first and the second languages, and that the two languages develop interdependently influencing each other. She says that the development of a child's second language proficiency is determined by his first language proficiency. Cummins distinguishes two linguistic proficiencies, "cognitive academic language proficiency" (CALP), and "basic interpersonal communicative skills" (BICS). She maintains that if cognitive academic language proficiency is fully developed in his first language, a child can apply to the second what he has learned in the first; on the contrary, if it is not fully developed, the child would have no basis for acquiring the second, and moreover he would not be able to develop the first any further. According to Cummins, higher the child's CALP in the first language is, the

better he acquires the second. If the CALP is low in his first language, his second language proficiency would barely reach the level of communication (BICS), but not the cognitive level (CALP). Two languages are thus interdependently related; the first language is considered to be indispensable.

CONCLUSION

The process of child second language acquisition can be seen to be determined by several factors: personality, age, level of cognition, stage of first language development, and type of language model, with age playing a crucial role as can be seen in the different attitude taken by M and N toward English, and their acquisitional differences.

As N is gregarious and inquisitive in nature, he felt no hesitation in using the English language from the beginning. On the other hand, M being shy, and self-contended in nature, was reluctant to express himself by means of juxtaposition of words. Pride and social consciousness said to develop at around eight years of age, further prevent him from producing utterances with limited manipulation of syntax.

Contrary to the common notion that the earlier the child learns, the faster he acquires second language. The optimal period of such learning to take place would appear to be from the fourth to the sixth grade of elementary schooling. By then the first would have been established, the second, therefore, would not compete directly with it; some interferences from the first language may be observed, especially in the phonological area where sounds substituting, rhythm and intonation come under the influence of the first language. A child at this period is able to maintain two separate languages, and he is fully equipped to handle concepts of infinitive, relative pronouns, compound and complex sentences as

well as subjunctive mood. Since two systems of languages are kept distinct, the second language could be maintained by the child on returning to his native country. On the other hand, a young child quickly enters and adapt himself to the new language, thus attaining it on a communicative level. The younger being conscious of belonging, is more likely to express himself totally in the second language. However, he would revert to the first language on return. It appears that the ability of the younger child to adjust to the language of the community may be closely associated with his strong desire to be a member of his age group in contrast to the older.

The observations of the two and a half years lead to a hypothesis that age and first language proficiency are crucial to whether children develop coordinate or compound bilingual system.

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